

**Notice of Allowability**

Application No.

09/682,007

Examiner

Audrey Y. Chang

Applicant(s)

DICKSON, LEROY DAVID

Art Unit

2872

NW

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on November 26, 2003.
2. ☒ The allowed claim(s) is/are 31-38, renumbered as 1-8.
3. ☒ The drawings filed on 26 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                             | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____  | 7 <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|  | 9 <input type="checkbox"/> Other  |

Audrey Y. Chang  
Primary Examiner  
Art Unit: 2872

## REASONS FOR ALLOWANCE

### *Remark*

- This Office Action is in response to applicant's amendment filed on November 26, 2003.
- By this amendment, the applicant has canceled claims 1-30 and has newly added claims 31-38.

The applicant has also submitted a *substitute specification*, which will be entered.

Claims 31-38 remain pending in this application.

### *Reasons For Allowance*

1. The following is an examiner's statement of reasons for allowance: of the prior art references considered, none has disclosed an *enhanced volume phase grating* that is comprised of a rigid support means, a volume phase medium and a transparent cover means such that the volume phase medium creates a Bragg grating structure with a bulk refractive index ( $n$ ) and a peak modulation ( $\Delta n$ ) of the bulk refractive index such that the peak modulation ( $\Delta n$ ) is determined by the claimed equation (as stated in claim 31). The enhanced volume phase grating with a *common* value of the peak modulation, determined by the equation, and a definite and constant thickness ( $T$ ), will *simultaneously maximize* the diffraction efficiency for *both* the S-polarized light and P-polarized light.

Prior art reference *US Patent issued to Huang (PN. 5,486,934)*, teaches a holographic structure with a peak modulation of the refractive index of the medium that *equalizes* the diffraction efficiency of the S and P polarization however it does not maximize the diffraction efficiency simultaneously.

Prior art reference *US Patent issued to Dickson et al (PN. 5,808,285, 5,955,721, 5,975,419, 6,158,659) and Knowles et al (PN. 6,085,978)* teaches a holographic grating such that the peak modulation of the refractive index of the medium does not give simultaneous maxima for both the S and P polarized light.

Art Unit: 2872

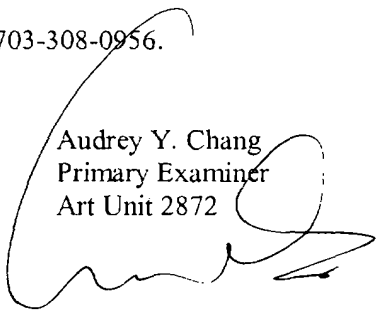
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208, (will be 571-232-2309 after January 20, 2004). The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 703-305-0024. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Audrey Y. Chang  
Primary Examiner  
Art Unit 2872



A. Chang, Ph.D.